Imagine Mars Overview (Part 1)

Transcript:

The big problem we're all facing today is that the United States is falling behind other countries in science, engineering technology and mathematics and that is a big problem so the question is what do we do. Our solution that we have is a project called Imagine Mars, where we ask students to imagine, and design, a community on the planet Mars.

Our area is Arabia Terra and the reason we chose it was because it's a flat surface, it's like a valley.

Here, this my habitat on Mars but first we have the map here, pretty much explaining our position and our whole purpose of setting up.

So right here is a placed called Helles Planitia, and it's like the lowest surface on Mars.

It was somewhere in this area. OK so somewhere in this area. Close to the equator. Why did you guys choose
that particular location on Mars to put your community? Well since we're on Mars and it's farther away from
the sun, we want to try and get as much sunlight and heat as we can.

Imagine Mars fits into this process called Project Based Learning. That means we give the students a task that they need to achieve and in order to achieve that task they need to learn things along the way.

The task that we're giving them is they need to build a community on Mars.

If we are going to another planet, we might as well start fresh and healthier.

That is where I come in, because I am the head of botany and agriculture and I just, I am in charge of the plants and what we're going to eat, our nutrition plan, we won't be eating meat, you know, going be healthy

in Mars. They started on this process, this exploration process to look into their own community, figure out the things they liked about it and the things they would change and they work with architects, took tours of these amazing places like the Center for Green Technology and they saw how green technology was being used throughout the city.

and when we went to the Green Technology Center they had a wall of plants they didn't grown in the soil, they grew it like out of water they were hydroponic, so that's what we basically used, so we could grow our trees and vegetables. We also went to the Conservatory and the air quality was so perfect in there, and it was all captured off, so I guess if we have good captured off air we could filter that air into tanks

To keep fit and also to conserve energy and build up energy we have bikes hooked up to a main battery that's our secondary power source. The students had amazing ideas they created a lot solutions to living on the planet Mars, but it didn't end there. They had to visualize those ideas using 3D architectural

software, and they only had a short time to do it but their energy and their excitement about their ideas really gave then momentum to learn this software
and they went from not ever having touched or used the software before to coming up with these amazing designs that we see in this project.

This habitat is called zero kelvin. First you will notice this tower. This is called the solar tower.

The solar tower is a 90 foot high tower full of photovoltonic film. We up here, we have the solar panels they help with the heating and the air
We have an underground drilling system we drill into the surface of the ice, once we get to the ice layer, the ice surface, which is like a subterranean ice surface, because it is underground. The tip of the drill heats the surface of the ice, absorbs it through the drill and it hold it in these capsules, these capsules they have a UV light, on top of them to destroy any type of bacteria
This was exciting this was something to do for summer that wouldn't have happened without Imagine Mars.

And it was something that they can go back to school and report during the summer this is what I did they can write a paper on it they can apply the knowledge straight into the classroom which is really great because it emphasizes as I say before careers that normally wouldn't be exposed to kids technology, science and all the other careers and the kids now
are talking about being architects, some of them being doctors, some of them being scientists themselves or engineers, so its really just a great career opener If you look at their projects and the amount of time that they actually were working with the software, I mean there is a major transformation in their knowledge and their skills and it just goes to show you what can happen when you give students a unique and engaging opportunity to learn.